

## Abstract

Processes, etchants, and apparatus useful for etching an insulating oxide layer of a substrate without damaging underlying nitride features or field oxide regions. The processes exhibit good selectivity to both nitrides and field oxides. Integrated circuits 5 produced utilizing etching processes of the present invention are much less likely to be defective due to photoresist mask misalignment. Etchants used in processes of the present invention comprise a carrier gas, one or more C<sub>2+</sub>F gases, CH<sub>2</sub>F<sub>2</sub>, and a gas selected from the group consisting of CHF<sub>3</sub>, CF<sub>4</sub>, and mixtures thereof. The processes can be performed at power levels lower than what is currently utilized in the prior art.

"Express Mail" mailing label number: EL873860634US  
Date of Deposit: August 30, 2001

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